

METHODS AND APPARATUS FOR ADAPTIVE PCM LEVEL ESTIMATION AND CONSTELLATION TRAINING

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ABSTRACT

10 Systems compensate for the presence of digital impairments using adaptive
constellation techniques. Sample magnitudes are estimated from received samples
transmitted during a training period using an algorithm based on minimizing the sum of
squares of the estimated errors, afterwhich a suitable constellation is derived. In one
embodiment, an optimum least-squares algorithm is employed. In an alternate
embodiment, a least mean squares (LMS) or normalized LMS algorithm is performed.